# Nitofill UR63

constructive solutions

## Solvent free, two part polyurethane resin for sealing cracks

### Uses

Can be injected into cracks in concrete or masonry in dry or damp conditions to form an elastic seal.

Use with Nitofill WS60 to seal cracks in wet conditions in basement, subways and tunnels.

### Advantages

- Low viscosity : Penetrates fine cracks and cavities.
- Good adhesion : Adheres strongly to dry or moist concrete
- Flexible : Strong but flexible to withstand differential structural movement..
- Tough : Withstands high hydrostatic pressures
- Impermeable : On curing, it forms a hard mass impermeable to water
- Suitable for use in high temperature conditions**.**

### Description

Nitofill UR63 is a two part liquid polyurethane. When mixed in the proportion supplied they react to form a tough, slighly flexible resin. Nitofill UR63 has a good adhesion to concrete and masonry and when injected into cracks it allows some movement without loss of bond.

### Technical support

The company provides a technical advisory service supported by a team of specialits in the field.

### Properties

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| Specific gravity | : 1.1 |
| Viscosity at 25°C | : 40 - 60 cps |
| Cure properties (Tropical grade) | |
| Temperature | 25°C |
| Pot life | 60 - 80 minutes |
| Reaction time | 70 - 90 minutes |
| Tensile strength | 1.5 - 2.5 N/mm$^2$ |
| Shore A | 50 - 70 |
| Elongation | 30 - 50% |

### Specification Clause

**Water-stopping crack injection resin**

The flexible, low viscosity, polyurethane, crack injection resin system shall be Nitofill UR63, a two part solvent-free liquid polyurethane. When mixed in the proportions supplied and injected into cracks in concrete, the resin shall form a slightly flexible and impermeable barrier in both dry and damp conditions. The flexible, low viscosity, polyurethane, crack injection resin system shalll have the following properties; pot life of 60 to 80 mins at 25°C; reaction time of 70 to 90 minutes at 25° C; viscosity of 40-60 cps at 25° C; specific gravity of 1.1. When used in conjunction with Nitofill WS60, a foaming two part polyurethane injection resin, shall form a permanent seal in cracked concrete.

### Application instructions

**Surface Preparation and Packer Spacing**

- Clean the area of concrete so that cracks are identifiable.
- It is recommended to use packers especially when injecting Nitofill UR63. Other techniques may be used, but are application specific. In the presence of running water, pre-injection of cracks using Nitofill WS60 is recommended.
- Drill holes to suit the specific dimensions of the packers and should be spaced at between 150 to 500mm intervals depending upon the crack width, depth and pressure of water. Angle should be at approximately 45° and bisect the crack in the centre of the concrete where possible. If rebar is struck, stop drilling and move drilling point to adjacent area.
- Insert packers and ensure they are tight to the concrete. If necessary they may be sealed with a product such as Renderoc Plug or (Nitomortar PE, Nitofill Surface Sealant).
- If there is no running water at the time of application, it may be acceptable to seal the face of the crack with a product such as Renderoc Plug or (Nitomortar PE, Nitofill Surface Sealant).

### Mixing and Application

- Thoroughly mix the accelerator with the base resin, taking care to exclude moisture as much as possible. Place in an enclosed container after mixing and ensure that the material is used withing the period of its working pot life.
- Nitofill UR63 requires the presence of water to react and harden. If there is no water ingress at the time of injection, cracks should be pre-injected with water.
- Nitofill UR63 is suitable for use with all common 1 component application equipment, typically an electric pump will yield the best results when injecting against hydrostatic water pressure.
- Inject Nitofill UR63 along the line of the crack methodically, ensuring that the material is working its way along to the next point. If injecting vertical cracks it is generally advised to begin at the bottom of the crack and work upwards.
- Take care not to over pressurise injection as this may lead to further cracking of the concrete or displacement of packers.
- If material is flowing without resistance, stop and allow material to gel. If material is still flowing consider increasing the amount of accelerator or changing the spacing of injection.

# Nitofill® UR63

## Finishing

Once the injection process has finished, remove injection packers and fill with Renderoc Plug or other appropriate Renderoc material. Scrape off any foam residue from the cracks and dispose off appropriately.

## Packaging

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| Nitofill WS60 | 1, 5 & 20 kg packs |
| Nitofill UR63 | 1, 5 & 20 kg packs |
| Nitomortar PE | 5 L pack |
| Nitoflor Sol | 5 & 20 L pack |
| Renderoc Plug | 5 kg pack |

## Limitations

While Nitofill UR63 is flexible, it is not generally considered suitable for use in movement joints or cracks subject to substantial movement.

## Precautions

### Health and safety instructions

Some people are sensitive to resins, so gloves and a barrier cream should be used when handling all resins. If contact with the resin occurs, it must be removed, before it hardens, with a resin removing cream followed by washing with soap and water. Do not use solvent. The use of goggles is recommended but should accidental eye contamination occur, wash thoroughly with plenty of water and seek medical treatment immediately. Ensure good ventilation and do not smoke during use.

For further information, refer the Safety Data sheet available for this product.

## Fire

Nitoflor Sol, Nitofill UR63 and Nitomortar PE are flammable. Renderoc Plug is non-flammable.

**Flash point**

Nitoflor Sol 33°C

## Additional information

Nitofill UR63 is part to a wide range of adhesive, grouts, repair mortas and sealing compounds specifically designed and manufactured by Fosroc for the construction industry.

## Notes :

The success of water stopping injection is largely dependent upon the skill of the applicator. Fosroc therefore recommends that an experienced applicator is selected to undertake these works to the required standard.

Exact spacing of injection ports, amount of accelerator, pump type and even injection technique will vary depending upon a number of factors, including crack with, concrete depth and water pressure. These will change even within the same project.

Excess material should be safely reacted with water to produce and inert Polyurethane foam, and disposed off appropriately.

# Nitofill® UR63

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